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Grow More Food in a Small Area

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We all need to use resources wisely. Some are in short supply and almost all are expensive. Has the lack of a large garden area been your excuse for not supplying fresh nutritious vegetables and fruits to your family? By adopting the techniques suggested here, studying a little more about principles we don't have room to explain fully—then getting at it, you'll be surprised at the potential your yard has for food production.

GARDEN LOCATION

Don't be locked into the traditional "garden behind the house and fence" syndrome. You may not want a whole front lawn replaced by a corn or potato patch, but a few folks have done it! Food crops may be planted in parking strips, corners of lots, along fences, surrounding patios and in other spots your active mind can imagine. As little as 100 square feet (10' x 10' or 20' x 5') can be used to grow a lot of good eating.

Many food plants are attractive enough to plant as ornamentals alone or combined with flowers and other border plants. Choose from rhubarb, chard, leaf lettuce in a range of colors, small tomato plants, eggplant, herbs such as opal, basil, parsley, or sage, strawberries and other plants with attractive foliage such as carrots, flowering kale, etc.

Watering and fertilizing schedule of a lawn isn't conducive to best performance of fruit trees. Put them by the walls or fences at the edge of the lot. With size and shape manipulation (espalier) they'll remain small for easy pruning, spraying and picking. Apples and pears require the most intensive spray program for pestsl, with other suited fruit kinds not as critical.

SOIL MODIFICATION

Most soils will benefit from the mixing of 2 to 3 inches of organic matter to a 6 inch depth. This will help loosen heavy clay soils and add nutrient and water holding capacity to sandy soils. Use abundant, inexpensive materials such as leaves, sawdust, wood shavings, old hay or straw. Some of these products may contain weed seeds. To avoid nitrogen deficiency and pale plants, add 1 pound (1 pt.) of ammonium sulfate for each 1 inch of material per 100 square feet. If enough composted material or manure is available, reduce the ammonium sulfate rate by

half. Peat moss, perlite or vermiculite can provide the loosening effect but will be more expensive. To maintain this improved tilth and structure, add organic material each year.

FERTILIZE ADEQUATELY

Well grown plants will yield more and will be less subject to disease and insect attack. It's important to provide nutrients so plants get a good start early in the season. Choose one of these methods: 1) Broadcast-scatter about 1½ lbs. of a fertilizer such as 16-16-8, per 100 sq. ft. and mix with 2–3 inches of soil before planting. 2) Band—a more efficient use of fertilizer but takes more time. With a hoe, make a furrow 3 inches deep. Put ⅓ – ½ cup of 6-16-8, 16-20-0 or similar fertilizer along each 10 ft. of row. Seed or transplants should be placed about 2 inches away from the fertilizer band at their proper planting depth.

Most plants will need additional nitrogen during the season. This is especially true if leaves, sawdust or other not-composted organic materials have been used for soil improvement. Plants show nitrogen deficiency quite readily by turning a yellow or pale green color. Look for this about 45 weeks after planting. Green them up quickly by supplying a soluble nitrogen fertilizer such as ammonium sulfate (21-0-0) ½ cup, or ammonium nitrate (34-0-0) at ⅓ cup per 10 feet of row. Scatter the product over the soil surface just before an irrigation and the water will take it to the root zone. Tomatoes may produce excessive foliage and few ripe fruits if they receive too much nitrogen. Use little if any fertilizer after planting.

USE SPACE WISELY

A single file row isn't the way to get high yields. Precision planting to give each plant its space to develop will permit wide row or bed planting. Lay out the garden to provide a 16-18 inch walkway for your feet. Arrange the plants in 3½–5 feet wide areas where there is no traffic to compact the soil and inhibit root growth.

SUGGESTED VEGETABLE SPACING IN INCHES

Beans (Bush)	6 x 6	Lettuce-Leaf	6 x 6
Beans (Pole)	4 x 36	Lettuce-Head	12 x 12
Beets	4 x 4	Onions	3 x 3
Broccoli	18 x 18	Parsnips	4 x 4
Cabbage	18 x 18	Peas	2 x 2
Cantaloupe	36 x 48	Peppers	12 x 12
Carrots	2 x 2	Potatoes	9 x 9
Cauliflower	18 x 18	Radish	1 x 1
Chard	6 x 6	Spinach	4 x 4
Corn (Sweet)	9 x 24	Squash (Summer)	48 x 48
Cucumbers	12 x 48	Squash (Winter)	60 x 60
Egg Plant	18 x 18	Tomatoes	24 x 24
Kohlrabi	4 x 4	Watermelon	60 x 60

Retaining walls to raise the soil level can help make neat gardens. If the soil is well drained and easily worked, raised beds aren't necessary so you may save work and expense. Train sprawly plants up fences. Use netting for cucumbers, beans and tall peas to climb. Stake tomatoes upright or use a wire cage. Plant only the crops your family will use. Concentrate on those that you prefer really fresh over supermarket kinds or that you will process for later use.

Examples of those that produce well for the space they occupy are snap beans, cucumber, chard, broccoli, zucchini, tomatoes, carrots, lettuce, beets, onions. Some that do not yield very much for the space taken are corn, cauliflower, peas, potatoes, celery and radishes.

Grow radishes or leaf lettuce while widely spaced plants such as squash or tomatoes are developing. Some low growing plants such as parsley or chives will survive among taller plants. Plant pole beans when corn is about 12–15 inches high and they will have ready-made supports. Seed catalogs list some varieties that have a smaller growth habit.

SEASON-LONG CROPPING

Several vegetables including onions, spinach, peas, cabbage, radishes, turnips, kohlrabi and broccoli may be planted very early in the spring. Properly prepared soil with drainage and good tilth make this an easier task. Some of these early planted, short season crops will be harvested in time for a planting of beans, lettuce or cauliflower to mature. In fact many of these early, cool season crops may be planted as late as July 10–15 and extend the garden season until well after the last frost.

It's best not to try to rush the planting time of peppers, tomatoes, cucumbers, squash and other warm season vegetables. They perform much better if planting is delayed until the soil has warmed, about two weeks after the last frost.

Several techniques will allow extending the growing season earlier and later and may hasten vegetable maturity. A clear plastic plant covering supported by wires or frames can give some freeze protection and provide faster growth. Hot caps may protect newly set plants when they are small. The wall o' water is a relatively new, improved cover for individual plants. This plastic cylinder of water-filled tubes provides an amazing degree of cold protection.

Black or clear plastic that covers the soil 2½–3 feet wide through which plants grow can hasten maturity of warm season crops like melons or tomatoes. The clear plastic provides more soil warming than does black. Black plastic allows no weed growth. In most Utah gardens, the weeds will germinate under the clear plastic, but the heat during a summer day will burn off most of them.

GENERAL GUIDELINES

The foundation of a successful garden is the proper choice of suited varieties. Select from those tested and recommended by USU. A healthy, vigorous garden will be less subject to insect and disease attack. Visit the garden frequently to discover problems before they become epidemic. Control the pests after identifying them and choosing proper methods.

Don't let weeds win. Beds of closely spaced plants that quickly shade the soil reduce weed germination. Organic mulches such as lawn clippings or leaves drastically reduce need for hoeing. They cool the soil so wait until later to mulch warm season crops like tomatoes, peppers and melons. Plastic mulches, discussed above, also provide weed control.

Shallow, regular cultivation destroys small weeds before they compete with crops for moisture, nutrients and light. Consider a drip system as an efficient water and labor saving method. It costs a little extra to install, but it is easily done and makes gardening a lot more fun. Other methods may be used, but remember that quality, fast growing vegetables are about 90–95% water and you need to apply it properly.